UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,172	02/28/2002	James Leonard Austin	STAN 2388	1340

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SMITH-HILL AND BEDELL
12670 N W BARNES ROAD
SUITE 104
PORTLAND, OR 97229

EXAMINER
MAHMOUDI, HASSAN

ART UNIT	PAPER NUMBER
2165	

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/019,172	AUSTIN, JAMES LEONARD
	Examiner	Art Unit	
	Tony Mahmoudi	2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>01 March 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1,2,17,18 and 23-34_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1,2,17,23-28 and 34_ is/are rejected.

7)☒ Claim(s) _18 and 29-33_ is/are objected to.

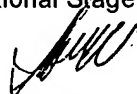8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

SAM RIMELL
PRIMARY EXAMINER

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Remarks

1. In response to communications filed on 01-March-2005, claims 1 and 30 are amended.

Claims 1-2, 17-18 and 23-34 are presently pending in the application, of which, claims 1 and

17 are in independent form.

Specification

2. The amended abstract of the disclosure is objected to because it still contains legal

phraseology such as "means" in line 1. Correction is required.

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a
separate sheet within the range of 50 to 150 words. It is important that the abstract not
exceed 150 words in length since the space provided for the abstract on the computer tape
used by the printer is limited. **The form and legal phraseology often used in patent
claims, such as "means" and "aid," should be avoided.** The abstract should describe the
disclosure sufficiently to assist readers in deciding whether there is a need for consulting the
full patent text for details. See MPEP §608.01(b).

The language should be clear and concise and should not repeat information given in the
title. It should avoid using phrases which can be implied, such as, "The disclosure concerns,"
"The disclosure defined by this invention," "The disclosure describes," etc. See MPEP
§608.01(b).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that said subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-2, 17, 23-28, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Steeg (U.S. Patent No. 6,493,637) in view of Ahlberg et al (U.S. patent No. 6,014,661.)

As to claim 1, Steeg teaches a data processor (see Abstract) comprising:

a) memory, arranged to store data (see column 9, lines 11-60, and see column 28, lines

37-49);

b)input means arranged to receive sets of input data to be stored in the correlation matrix

memory (see column 9, lines 56-60);

c) a sampler arranged to derive, from each set of input data, a respective set of tuples (see

column 1, lines 13-17, see column 33, lines 32-53);

d) a coder arranged to code each of the tuples (see column 23, lines 29-34, and see

column 33, lines 32-53);

e) a combiner arranged to combine the coded tuples for a respective set of input data (see

column 3, line 66 through column 4, line 61, and see column 27, lines 37-60);

f) a separator generator arranged to generate for each set of input data a respective,

associated, unique separator (see column 27, lines 37-60, and see column 42, lines 49-67);

g) storage means arranged to store the association of each separator with its respective set

of input data (see column 9, lines 42-60, and see column 22, lines 19-37); and

h) addressing means arranged to applying to the correlation matrix memory, for each set

of input data, the respective combined coded tuples as a row address and the respective

unique separator as a column address, or vice-versa (see column 23, lines 29-38, and see

column 26, lines 14-27.)

Steeg does not teach a correlation matrix memory.

Ahlberg et al teaches automatic analysis of databases and user-controlled dynamic

querying (see Abstract), in which he teaches a correlation matrix memory (see column 9,

lines 1-14.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the

time the invention was made to have modified Steeg to include a correlation matrix memory.

It would have been obvious to a person having ordinary skill in the art at the time the

invention was made to have modified Steeg by the teaching of Ahlberg et al, because

including a correlation matrix memory would enable the system to store the relating results

(statistical results) in matrices in the memory, as taught by Ahlberg et al (see column 9, lines

1-14.)

As to claim 2, Steeg as modified, teaches wherein the combined coded tuples for each set

of input data (see Steeg, column 3, line 66 through column 4, line 61, and see column 27,

lines 37-60) are in the form of a binary coded word (see Steeg, column 33, lines 32-53); the

data processor further comprises a translator arranged to translate each such binary coded

word into a translated word comprising index values representing which bits of the binary

coded word are set (see Steeg, column 17, lines 18-34); and the addressing means (see Steeg,

column 23, lines 29-38, and see column 26, lines 14-27) is arranged to apply the translated

word to the correlation matrix memory (see Steeg, column 22, lines 19-37.)

As to claim 17, <u>Steeg</u> teaches a method of processing data (see Abstract), comprising the steps of:

a) receiving sets of input data (see column 9, lines 56-60) to be stored in memory (see column 9, lines 11-60, and see column 28, lines 37-49);

b) deriving, from each set of input data, a respective set of tuples (see column 1, lines 13-17, see column 33, lines 32-53);

c) coding each of the tuples (see column 23, lines 29-34, and see column 33, lines 32-53);

d) combining the coded tuples for a respective set of input data (see column 3, line 66 through column 4, line 61, and see column 27, lines 37-60);

e) generating for each set of input data a respective, associated, unique separator (see column 27, lines 37-60, and see column 42, lines 49-67);

f) storing the association of each separator with its respective set of input data (see column 9, lines 42-60, and see column 22, lines 19-37); and

g) applying to the correlation matrix memory, for each set of input data, the respective combined coded tuples as a row address and the respective unique separator, as a column address, or vice-versa (see column 23, lines 29-38, and see column 26, lines 14-27.)

For the teaching of "correlation matrix memory", the applicant is directed to the remarks and discussions made in claim 1 above.

As to claim 23, <u>Steeg</u> as modified, teaches wherein the separator generator is arranged to generate separators in a random manner (see <u>Steeg</u>, column 18, lines 38-45, and see column 27, lines 37-60.)

As to claim 24, <u>Steeg</u> as modified, teaches wherein the separator generator is arranged to generate separators which are M bits wide and having N bits set, where N>1 or N=1, and where N<M (see <u>Steeg</u>, column 29, lines 18-43, and see column 31, line 60 through column 32, line 26.)

As to claim 25, <u>Steeg</u> as modified, teaches wherein, for each the set of tuples, each tuple comprises three successive elements of a respective set of input data, and each successive tuple is offset by one such element from the preceding tuple (see <u>Steeg</u>, figure 5b, and see column 23, lines 11-28.)

As to claim 26, <u>Steeg</u> as modified, teaches wherein the coder is arranged to code the tuples by tensoring (see <u>Steeg</u>, column 22, line 19 through column 23, line 38, and see column 31, line 60 through column 32, line 26, where "tensoring" is read on "vectors".)

As to claim 27, <u>Steeg</u> as modified, teaches wherein the combiner is arranged to combine the coded tuples for a respective set of input data, by superimposition (see <u>Steeg</u>, column 35, lines 36-55.)

As to claim 28, <u>Steeg</u> as modified, teaches wherein at least some of the rows (or columns) of the correlation matrix memory are represented by binary words, each of which represents the positions of each bit in the respective row (or columns) which is set (see <u>Steeg</u>, column 34, lines 45-56, and see column 35, lines 36-55.)

As to claim 34, <u>Steeg</u> as modified, teaches the data processor arranged to process sets of input data and query data in the form of postal addresses (see <u>Steeg</u>, column 53, line 35 through column 54, line 11.)

Allowable Subject Matter

6. Claims 18 and 29-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record, <u>Steeg</u> (U.S. Patent No. 6,493,637), <u>Ahlberg et al</u> (U.S. Patent No. 6,014,661), and <u>Oates et al</u> (U.S. Publication No. 2003/0191887 A1), do not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim):

outputting a raw superimposed separator which represents, for a respective set of query

data, the number of rows (or columns) having a bit set by the applied combined coded tuples

in each column (or row) represented by the raw superimposed separator;

converting the raw superimposed separator into a binary superimposed separator;

extracting one or more individual separator from the binary superimposed separator; and

identifying the or each respective original set of input data from association with the or

each individual separator extracted from the binary superimposed separator, as claimed in

claim 18.

The prior art of record, Steeg (U.S. Patent No. 6,493,637), Ahlberg et al (U.S. Patent No.

6,014,661), and Oates et al (U.S. Publication No. 2003/0191887 A1), do not disclose, teach,

or suggest the claimed limitations of (in combination with all other features in the claim):

the addressing means is arranged to access a first one of the sub-correlation matrix

memories and apply the combined coded tuples of a respective set of input data to that sub

correlation matrix memory unless a respective row (or column) of that sub-correlation matrix

memory will become saturated by application of those tuples; and in the event of such

prospective saturation, access successive ones of the sub-correlation matrix memories until

those tuples can be applied to a respective one of the sub-correlation matrix memories

without such saturation, as claimed in claim 29.

The prior art of record, <u>Steeg</u> (U.S. Patent No. 6,493,637), <u>Ahlberg et al</u> (U.S. Patent No. 6,014,661), and <u>Oates et al</u> (U.S. Publication No. 2003/0191887 A1), do not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim):

output means for outputting a raw superimposed separator which represents, for a respective set of query data, the number of rows (or columns) having a bit set by the applied combined coded tuples in each column (or row) represented by the raw superimposed separator;

threshold means arranged to convert the raw superimposed separator into a binary superimposed separator; and

an extractor arranged to extract individual separators from the binary superimposed separator, as claimed in claim 30.

Claims 31-33 are objected to because they are dependents from the objected to dependent claim 30.

Response to Arguments

8. Applicant's arguments filed on 01-March-2005 with respect to the rejected claims in view of the cited references have been fully considered but they are moot in view of the new grounds for rejection.

Conclusion

9. Any inquiries concerning this communication or earlier communications from the examiner

should be directed to Tony Mahmoudi whose telephone number is (571) 272-4078. The

examiner can normally be reached on Mondays-Fridays from 08:00 am to 04:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Dov Popovici, can be reached at (571) 272-4083.

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April 26, 2005

SAM RIMELL
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